

5 NEED AND ALTERNATIVES

5.1 INTRODUCTION

- 5.1.1 The EIA Regulations state that a description of the reasonable alternatives studied by the applicant which are relevant to the proposed development and its specific characteristics should be included within the Environmental Statement.
- 5.1.2 Also included should be an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.
- 5.1.3 It is recognised that the nature of certain developments and their location may make the consideration of alternative sites a material consideration and as such the ES must record this consideration of alternative sites.
- 5.1.4 As such, and on this basis, this section outlines the alternatives considered in terms of the following scenarios:
1. No-development alternative (Do-nothing approach);
 2. Alternative design, technology, location, size and scale options.

5.2 THE DO NOTHING APPROACH

- 5.2.1 The 'do nothing' approach is an alternative to the proposed development scheme, whereby the site remains as existing (i.e. the redevelopment proposals are not implemented).
- 5.2.2 Chapter 7 of this ES details the Geotechnical Conditions and Contaminated Land and describes both the existing ground condition and contamination. The site was reclaimed from the Severn estuary in 1970 and was used support the scrap metal feedstock required at the adjoining Celsa Steel making plant.
- 5.2.3 The site was abandoned during 1990's with large quantities of on-ferrous automotive shredded residue (ASR) and other fill evident on the site. The shredded residue was contained to the south of the site in a formal cell but the residue deposits to the north of the site was not contained and believed to be intermingled in a random fashion with general non-domestic fill of the era.
- 5.2.4 The site was then subject to a major landscaping and remediation scheme which essentially provided a containment scheme with the importation of fill. Potential risks for the site were seen as:
- Combustion of the ASR by the self-ignition of gas pockets
 - Leachate containing contaminants being generated by the passage of ground water through the ASR and mobilizing contaminants.

5.2.5 The remediation proposals mitigated these effects by:

- The introduction of a passive gas venting system
- A site wide MDPE membrane overlaid with a drainage blanket to interrupt potential pathways and intercept and shed any ground water to the foreshore before it could percolate through to the lower horizons of the ASR and mobilize contaminants

5.2.6 During 2006 the site was redeveloped to place substantive quantities of subsoils and re profile the site for use as a motor cross track. There are no records of an Engineering Risk Assessment being carried out and these works have compromised the mitigation measures previously carried out, as the works capped the passive gas vents and surcharged the existing overburden materials causing further settlements of the compressible ASR with potentially consequential tensile tears in the MDPE membrane. This could allow pathways to be created for groundwater allowing it through the ASR and generate contaminated leachate.

5.2.7 As such, it is demonstrated that the site has two significant environmental concerns, due to the redevelopment of the site in 2007. These relate to the potential for combustion of the ASR by the self-ignition of gas pockets and also the potential for contaminated leachate to find pathways through the tears in the MDPE membrane.

5.2.8 Therefore, the 'do nothing' approach would continue to have significant environmental impacts from due to the harm to the previously installed mitigation measures at the site, from the redevelopment to provide the motor-cross track. The proposal will provide an opportunity for new mitigation measures to be introduced in order to mitigate some of the on-going environmental issues at the site. A more detailed breakdown of the proposed mitigation measures and contaminated land issues are provided in Chapter 7 of this ES.

5.2.9 Furthermore, the proposed development is to create a number of low-carbon industrial buildings, which will provide a sustainable working environment for a number of local businesses.

5.2.10 Accordingly, the 'do nothing' alternative is considered to not be desirable for a number of reasons:

- It would result in a continuation of the on-going environmental impacts caused by the historic land use at the site and the redevelopment to provide the motor-cross track at the site;
- It would not result in the delivery of the potential socio-economic benefits of provision of low-carbon industrial units for use.

5.2.11 Positive impacts of the 'no development' alternative:

- No disruption to existing local residents from construction works; and
- No additional traffic generation (over and above the existing uses/activities);
- No impacts to the landscape and visual amenities of the surrounding area.

- 5.2.12 It is considered that the negative outcomes of the 'no development' alternative, especially that relating to environmental mitigation measures at the site, outweigh the positive impacts which may arise if there is no development.

5.3 ALTERNATIVE DESIGN, TECHNOLOGY, LOCATION, SIZE AND SCALE OPTIONS

- 5.3.1 This section outlines the various options which have been considered during the evolution of the proposals for the site. The sequence of alternatives relates to the broad thought-process which has been followed to date.
- 5.3.2 The nature of development which can be achieved is somewhat limited the existing Policy Context and the constraints of the site.
- 5.3.3 The existing site is partially located within allocated employment land referenced as site EC1.3 (Rover Way (Celsa Steel Works, B2, B8 Primary Tremorfa Industrial Estate, Seawall Rd) under Policy EC1 of the Cardiff Local Development Plan (2006-2026).
- 5.3.4 As such, the site is partially protected under this Policy and it is considered that other options outside of a Use Class B use would not represent a reasonable alternative for consideration. This determination is also made on the basis that the site adjoins a major industrial area of Cardiff with known contaminated land issues which require remediation. Therefore, the only suitable alternative options would be office, industrial or storage and distribution uses at the site.
- 5.3.5 As outlined previously, any development within the site will be required to address the existing environmental issues relating to the historic use of the site. Therefore, the proposed development and any alternative would result in a similar level of environmental benefit through the remediation of the site and there is a zero sum gain between the current proposal and another B Use Class at the site in relation to site remediation.
- 5.3.6 The current proposal is to provide Low to Zero Carbon Industrial Units. This proposal would have the significant environmental and social benefits from the provision of renewable energy such as solar panels, battery storage and air source heat pumps being provided on or near the buildings.
- 5.3.7 As such, it is considered that the proposed alternative represents a land use which would deliver the most significant environmental benefits, when considered against the existing context of local and national planning policy and site constraints.
- 5.3.8 In terms of technology, the applicant has assessed other alternative uses for the site and considers that the use of Solar Panels, coupled with battery storage, possible wind turbines and air source heat pumps would produce a level of renewable energy for the development as well as restricting any environmental impacts.
- 5.3.9 It is considered that the site is located within a prime location for a Green Energy Park. The site is located circa ½ a mile to the south of the suburb of Tremorfa and 1 mile to the south of

Adamsdown – the land immediately to the north of the site is formed by existing industrial uses.

5.3.10 Considering the sites location, it is sufficiently located away from residential uses to avoid any conflict in residential amenity terms, whilst being close enough to supply heat and power to the industrial users on the site.

5.3.11 As such it was considered that no other suitable sites could be sourced which would offer a direct comparison in terms of benefits and so no further sites were considered for the proposed development.

5.3.12 The application at the site is intended to be submitted in outline. Therefore, the consideration in relation to size and scale options will be further determined at reserved matters stage. For the purposes of the ES parameters of development have been considered which have been informed by the technical appendices which support the ES. As such, the size and scale of development have been informed by the following issues:

- Landscape Mitigation required to minimise the impact to the landscape;
- Alterations to ground levels to create a level platform for development;

5.3.13 Further detail on the evolution of the design of the scheme is provided within the Design and Access Statement (DAS) which has been submitted in support of the planning application.

5.4 CONCLUSION

5.4.1 This chapter has outlined that the environmental benefits associated to the proposed development would outweigh the negative outcomes 'do-nothing' option, given the existing site environment.

5.4.2 It has also been demonstrated that the applicant has considered the other potential options relating to the site, in the context of the national and local planning policy and site constraints and outlined the main reasons for selecting the chosen development at the chosen site, in terms of environmental impacts.

5.4.3 As discussed in further detail in the submitted DAS, the proposed development scheme has been designed with the specific environmental constraints of the site taken into consideration. This has resulted in a design solution which has been found to be acceptable in terms of its environmental impact and commercial viability and deliverability.